IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA   )
)
          v.   )   Criminal No. 19-369
)
LAFON ELLIS   )

SUPPLEMENT TO OMNIBUS RESPONSE TO DEFENDANT'S PRETRIAL MOTIONS

AND NOW comes the United States of America, through its counsel, Scott W. Brady, United States Attorney for the Western District of Pennsylvania, and Brendan T. Conway, Assistant U.S. Attorney for said district, and respectfully submits the government's supplement to its omnibus response to defendant's pretrial motions.

As the Court is aware, the parties dispute whether the defendant is entitled to the trade secret source code associated with TrueAllele, the software developed by the government's expert, Cybergenetics, and used to analyze the DNA found on a firearm in this matter. What the defendant ignores, but what is the key to the analysis, is that the admission of this evidence depends not on the source code, it is the reliability of the software's outcome.

By way of an analogy, consider a measurement from a digital scale. To test whether the scale provides a true measurement of the weight of a substance one could weigh the same substance on other scales or place a substance with a known weight on the scale. One does not need to open up the scale to examine its inner workings to determine whether it is accurately measuring the weight. In fact, opening up the scale and examining the inner workings would provide no information as to accuracy of the scale and may destroy the scale.

The same concept applies here. We need not examine the source code of TrueAllele to determine whether it works. Rather, we can test the results TrueAllele produces to determine whether it produces reliable results, just as we would with a scale. And, of course, there is no

dispute that TrueAllele has been tested over and over and determined to produce reliable results. Moreover, Cybergenetics has made such TrueAllele testing available to the defendant at no cost, and opening the source code to the public would destroy the trade secret that Cybergenetics developed.

In the case, the government asked Cybergenetics to do some incremental testing on the data in this case to determine whether the results TrueAllele produced were reliable. As it turns out, there are several computer programs used by other forensic groups to do similar work to Cybergenetics that are nonproprietary "open source" programs, meaning that their source codes are publicly available. Thus, one way to test the accuracy of the results of the TrueAllele program was to run the data from this case through the open source programs, and then compare those results to the results from the TrueAllele program.

Cybergenetics performed that analysis, and the results of that analysis are included in the report attached hereto as Exhibit A, and explained in the Declaration of Mark W. Perlin attached hereto as Exhibit B. Using TrueAllele, Cybergenetics opines that a match between the DNA found on the pistol and the known DNA sample for Lafon Ellis is 21.4 trillion times more probable than a coincidental match to an unrelated African-American person. For comparison sake, using the "EuroForMix" program, which is the most similar in terms of sophistication to TrueAllele, a match between the DNA found on the pistol and the known DNA sample for Lafon Ellis is 2.02 quadrillion times more probable than a coincidental match to an unrelated African-American person. Thus, both programs found a statistical match between the DNA left on the gun and the known DNA sample for Lafon Ellis, as did the four other programs through which the same data was run. The programs came to that conclusion with varying degrees of certainty based on the sophistication of the programs.

This testing is, of course, something that the defense could have easily done to determine the critical issue here – whether TrueAllele produced accurate results – but that is not really what the defense is after. The defense is after a ruling that requires that Cybergenetics provide unfettered electronic access to the source code trade secret in the hopes that Cybergenetics will withdraw from the case. It is an all or nothing strategy for the defense and their cadre of "experts" who oppose the use of this technology, or want to get access to it so that they can use it for their own pecuniary benefit.

This incremental testing demonstrates that the results from the TrueAllele computer program can be and were tested without the need for the source code for the TrueAllele program. The data was run through similar programs to obtain similar results, which verifies the accuracy of TrueAllele results. No source code for TrueAllele was needed to perform this testing, which further demonstrates the fallacy of the defendant's argument that he needs the source code. Indeed, examining the publicly available source code of these five open source programs would not change their statistical DNA testing results that connect the defendant to the gun.

Even if the Court were to determine that some sort of access to source code was appropriate, to protect the trade secrets of Cybergenetics, it is critical that the Court control that access to prevent its dissemination, just as the Court did in Commonwealth v. Watson, Criminal No.: FE-2019-279 (Fairfax Va. Cir. Ct. October 9, 2020) (attached as Exhibit C). In that case, the Court granted the defendant access to the source code of TrueAllele, but it only allowed the defendant and his experts to review the trade secret source code at the offices of the attorney for Cybergenetics. The source code was put onto an iPad for viewing, but the Court precluded the defendant or his experts from removing the iPad, or from taking any videos, recordings, or other methods of copying the source code. Photographs of the source code was only permitted at the

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request of the defendant and with written authorization.   Notably, once Cybergenetics had

produced the source code, the defendant declined to examine it.

WHEREFORE, for the reasons set forth above, the Court should deny the defendant's

pretrial motions to the extent they call for the production of the source code for the TrueAllele

software, or, in the alternative, require the production of the source code under a protective order

like the one the Court issued in Commonwealth v. Watson, Criminal No.: FE-2019-279 (Fairfax

Va. Cir. Ct. October 9, 2020).

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